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Evaluating the Use of Course Pairing to Increase Academic Success of Undergraduates

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Evaluating the Use of Course Pairing to Increase Academic Success of Undergraduates

by
Paul Hauptmann

An Applied Dissertation Submitted to the
Abraham S. Fischler College of Education
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Education

Nova Southeastern University
2015

Approval Page

This applied dissertation was submitted by Paul Hauptmann under the direction of the persons listed below. It was submitted to the Abraham S. Fischler College of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova Southeastern University.

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Statement of Original Work

I declare the following:

I have read the Code of Student Conduct and Academic Responsibility as described in the *Student Handbook* of Nova Southeastern University. This applied dissertation represents my original work, except where I have acknowledged the ideas, words, or material of other authors.

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Paul Hauptmann

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November 12, 2015

Date

Abstract

Evaluating the Use of Course Pairing to Increase Academic Success of Undergraduates. Paul Hauptmann, 2015: Applied Dissertation, Nova Southeastern University, Abraham S. Fischler College of Education. ERIC Descriptors: Academic Persistence, Acceleration, Achievement Gains, Developmental Studies Programs, Freshman Composition, Remedial Instruction, Student Attrition

This applied dissertation assessed pairing undergraduate English courses as an innovative delivery method within developmental English courses. Developmental courses are remedial classes students take due to low standardized test scores. Developmental courses usually do not count for college credit. In this study, a developmental English course was paired with a college course. At times, this pairing method is also called a learning community. The study specifically discussed the effectiveness of pairing a developmental English course with the college credit English course next in the composition sequence for freshman college students. Paired courses were compared to the traditional model of 16-week semesters. This study was initiated due to low course completion rates of students taking a developmental course. The research reviewed indicated the challenges of developmental students and addressed possibilities regarding why students may not have finished courses. The literature review also offered research about course delivery. This study assessed whether or not pairing the two courses at the research location led to a higher course completion rate as compared to students taking the 2 courses in the traditional, separate 16-week semester.

An evaluation of the data revealed that pairing courses led to higher course completion rates and more positive student perceptions. Learning gains were not impacted by pairing courses, as this study revealed that learning gains actually decreased in the paired course delivery model. In the traditional course delivery model, course completion was lower than the paired model. Student perceptions were lower in the traditional model than in the paired model, but not statistically significant. Learning gains were stagnant in the traditional model. Recommendations for future research included focusing on increasing learning gains, using a larger population, and surveying students more often during a semester.

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Chapter 1: Introduction

Developmental or remedial undergraduate education courses, also called college preparatory education courses, are intended to support remedial students in acquiring skills necessary to succeed in college level courses. Students taking developmental courses may be recent high school graduates or adults returning to school after graduating from high school many years ago. Students are placed in developmental courses when standardized test scores indicate that remediation is necessary. The most common areas of remediation are reading, writing, and mathematics. While developmental courses are necessary for remedial students, improvements in pedagogy and course delivery may also be needed since many students do not finish developmental classes, impeding their educational goals. One of these course delivery improvements has been to pair developmental courses with college credit courses to increase course completion.

In a discussion about course completion of developmental students, Bailey and Choo (2010) found that within community colleges, approximately 60% of nationwide students are required to enroll in developmental coursework. Bailey and Choo also stated that 28% of remedial students referred for developmental education did not enroll, and 30% failed or withdrew from at least one developmental course. Overall, Bailey and Choo made evident that only 31% of identified remedial students successfully completed remedial mathematical sequences. The researchers estimated difficulties to meet President Obama's Administration's goal of increasing the number of community college graduates. This study focuses on paired-course methods of instruction to deliver developmental English courses that increase student retention and success.

The research problem. According to Goudas and Boylan (2012), in the past 5 years developmental education has been debated significantly. The focus of the debate

has been whether or not developmental education is efficiently serving the needs of students it is intended to target. Due to low success rates of developmental education students, new reforms and pedagogy have been enacted. Goudas and Boylan stated that research conducted has presented conflicting and consistent conclusions. For example, Goudas and Boylan cited a study by Martorell and McFarlin (2007) in which the researchers stated that all developmental education courses are ineffective. Goudas and Boylan elaborated that many policies criticizing developmental education often cite the Martorell and McFarlin study. Goudas and Boylan find a fallacy with the study because they measured the effectiveness of all developmental education courses based on labor market outcomes. In addition, recommendations regarding developmental education have been made, but these recommendations are not all of strong quality. For instance, Goudas and Boylan stated that Calcagno and Long (2008) published research stating that students who took remediation courses should perform better in college than students who did not have to complete remediation.

Little research has been conducted measuring the effect of new reforms on developmental education, according to Rutschow and Schneider (2011). Rutschow and Schneider further stated that minor changes in developmental education programs do not show dramatic improvements, but significant changes such as interventions focusing on accelerating student progress have shown gains in student success. One model of acceleration of student learning is to use learning communities which involves the pairing of courses. Developmental education is an area in need of more research due to low rates of success among students (Rutschow & Schneider, 2011). Research needs to be conducted targeting the effectiveness of developmental education, and the utilization of new pedagogical methods.

Statement of the Problem

At a local private university, only 57% of students identified as at-risk of attrition or academic failure at time of acceptance complete the required composition sequence of Developmental English and English Composition I in one academic year. The statistic is based on students taking both courses separately in traditional 16-week semesters. In Florida, the Department of Education (2013) stated 68% of developmental English students aged less than 20 pass college level English within 3 years. For students who are between 20 and 24 years of age, 67.3% pass college level English within 3 years. The problem to be addressed in the proposed study is to evaluate whether or not pairing Developmental English with English Composition I will lead to higher completion rates, higher learning gains, and better student impressions of the composition sequence when compared to the traditional 16-week semester within a private university in the southeastern United States. This study would be the first time the paired course delivery in English composition courses would be evaluated for higher completion rates, higher learning gains, and better student perceptions when compared to the traditional 16-week course delivery model at the research site.

Background and justification. Every year, over 2,000,000 students take a mandatory developmental education class at colleges and universities across the nation (Boylan, 2009). These students are assessed by either college entrance test scores. According to Hughes and Clayton (2011), once students are assessed, college success rates are analyzed, and sometimes the assessment indicates that students are to enroll in developmental education courses. Developmental education within the proposed study consists of courses in mathematics, reading, and writing. These courses focus on basic skills that should have been learned in high school. Despite remediation, students taking

developmental education classes are not always successful. Developmental education has not met expectations of increasing college graduation rates among developmental education students (Complete College America, 2011). In addition, VanOra (2012) stated that less than 30% of community college students graduate within 6 years, and the percentage is even lower for students enrolled in developmental education classes.

However, researchers and educators in developmental education often have contrary opinions about changes in developmental education. According to Goudas and Boylan (2012), some of the research in developmental education has led to conflicting results, and some of the available data is misunderstood. For example, Goudas and Boylan questioned how success of developmental students is defined and asked if success is persistence, graduation, labor market outcomes, or overall grade point average. In addition, Goudas and Boylan contended that there is room for improvement in the effectiveness of developmental education, but data needs to be interpreted carefully. Research-based methods to evaluate developmental education programs should be recognized so developmental education remains an important part of higher education (Goudas & Boylan, 2012).

At the research site, instructors have previously taught developmental English courses in traditional 16-week semesters. In this study, pairing courses occurs when course selection and delivery features two courses, one developmental and one college level, in the same discipline taken during the same semester. Instructors of the developmental course still focus on basic reading and writing skills while providing extra support for the Composition I course. Some of the skills needed in Composition I are emphasized in developmental English. For example, students having difficulty with writing cause and effect in Composition I receive additional instruction in developmental

English. Students are further remediated by using an online writing laboratory in developmental English. Therefore, students are exposed to instruction multiple times during the semester in order to become proficient.

Developmental education programs are being increasingly scrutinized by federal and state governments due to low success rates (Merisotis & Phipps, 2000). Merisotis and Phipps discussed some students completing a college preparatory high school curriculum are still in need of remediation. The researchers stated students completing a high school preparatory curriculum and immediately attending community college resulted in 40% of students in need of mathematical remediation, one out of five in need of English remediation, and one in four in need of reading remediation.

Furthermore, one community college had 73% of its students in need of at least one developmental course, according to Merisotis and Phipps (2000). The results of students taking the courses, however, were not very encouraging. The researchers stated only 35% of students enrolled in developmental education completed their degree programs. Thus, some university systems have moved developmental education to community colleges only. Regardless, Merisotis and Phipps contended that approximately 78% of colleges and universities offer some developmental instruction; this could be through writing centers or tutoring programs in addition to courses. The concern that many colleges have is that funds are being used for courses that are essentially a review of high school skills (Merisotis & Phipps, 2000).

Three aspects of developmental education must be targeted to improve developmental education programs (Merisotis & Phipps, 2000). First, there should be collaboration within other colleges and universities. This means that developmental programs should be researched across many different institutions. Research should occur

not only within the same state, but across many different ones. The second focus should be to make developmental programs more comprehensive. Several different components of making developmental education comprehensive need to be analyzed. Areas such as assessment, placement, support services, and curriculum, should be evaluated. The third aspect to be analyzed for effectiveness of developmental programs is to utilize technology. One suggestion is to offer computer-assisted developmental courses so students can work at an individual pace (Merisotis & Phipps, 2000).

Changes to developmental education programs need to be enacted so that developmental students are more successful in pursuit of a college degree. Some of the changes currently evolving in the developmental education field include accelerating courses by offering nontraditional course delivery, placing students in college credit courses while they complete developmental online laboratories, and placing students in college credit courses while enrolled in learning resource center instruction.

Focusing on student needs is necessary for students to be successful in college rather than only concentrating on student placement (Bailey, 2009). Bailey said that two students with the same placement score may need entirely different assistance in order to be successful in college credit courses, and students with very weak skills should be prepared to minimize the amount of time spent in developmental courses. Bailey acknowledged that students who are two or three levels below college readiness are the ones less likely to graduate, so they need minimal expense and obstacles in moving forward in their academic plans.

According to Bailey (2009), accelerated strategies for developmental students are being used by various colleges. For example, at the Community College of Denver, students are able to combine two levels of developmental education courses to accelerate

course completion. For example, if a student has to complete two levels of developmental courses before taking the college credit course, the student can take the two developmental courses in the same semester. In the next semester, the student can then take the college credit course. This accelerates the time spent on taking developmental courses that do not count towards college credit. Cabrillo College's Digital Bridge Academy immerses students in a 2-week intensive program to accelerate progress. This academy is similar to accelerated programs that some K-12 schools use. Students are immersed in the subject, and the program includes special programs for weak students. This approach focuses on developmental skills, but it includes college teaching pedagogy so that students begin to get used to the pedagogy in college courses. Bailey explained that this pedagogy is teaching all students in the class similarly. This problem is in the range of influence since the writer of this study teaches developmental education courses.

Deficiencies in the evidence. According to Bailey (2009), much of the research in developmental education focuses on effective teaching practices, appropriate counseling, support services, faculty preparation, and assessment. Bailey also declared that there is some research conducted regarding acceleration, which is the process of taking courses in condensed formats, but program designs need more research in order to measure whether or not accelerating developmental education courses is effective. Bailey reported that while there is research pertaining to learning communities, the research focuses on nondevelopmental students. Bailey asserted that the research that has been conducted on developmental education does not reliably measure effects of remediation or pedagogical approaches. Additionally, Bailey stated that while there is little research that addresses program design, there are procedural problems in some of the studies that have been produced. Some of these studies compared developmental and

nondevelopmental students. Bailey also contended that institutions have inconsistent developmental education policies that affect placement. For example, one student could be placed into developmental at one college, but not at a different college since colleges use different placement scores (Bailey, 2009).

Research has demonstrated that developmental education has been successful in some geographical areas, but not in others. For example, Bailey (2009) said that studies from Florida and Texas have indicated that developmental education programs did not show many positive results, while an Ohio study reported that developmental education had positive results. In these studies, Bailey said that the research did not give much insight regarding students with the weakest skills. Different formats in terms of course delivery have been explored by researchers, but the research has not been conclusive (Bailey, 2009). A lack of evidence suggests the best delivery method for developmental students is to not only complete a developmental English course, but also the introductory college credit writing course, Composition I.

According to Rutschow and Schneider (2011), earning a college degree is becoming increasingly important for improving the quality of this nation's workforce. Merisotis and Phipps (2000) stated that job growth for people with college degrees will continue to increase. Jobs requiring a master's degree will increase by 27 % and jobs requiring a bachelor's degree will increase by 24%; developmental education courses provide college access for many students who have not yet acquired the skills needed for college level work (Rutschow & Schneider, 2011). Bailey (2009) maintained that reforming developmental education may be very difficult, but there has been a strong interest in making some reforms. Several states' legislations such as California, Texas, Tennessee, and Kentucky have been enacting important initiatives (Bailey, 2009). In

addition, private foundations have been growing in support of new developmental education initiatives. Finally, Bailey declared that the federal government has turned its attention to the problems in developmental education, and colleges have been trying different approaches. A lack of research is evident in how course delivery changes will affect student success.

Audience. College students, especially developmental students, will benefit because this study measured whether or not pairing courses is an effective course delivery method to complete Developmental English and English Composition I. Universities, colleges and faculty will benefit because this study addressed student success for developmental students relating to course delivery. Admissions counselors will also benefit from this study since a course delivery method was researched that targeted incoming freshman students who had to take a developmental English course. Since the study's participants included incoming college freshman students, high school guidance counselors, teachers, and leaders will also benefit as they prepare students for college.

Definition of Terms

Developmental education. Remedial courses for college students who are accepted to college provisionally due to not meeting minimum test score entrance requirements are developmental education courses. Traditional aspects of the field, according to Texas State University, include courses in reading, writing, mathematical, and study skills.

Developmental education students. Students who scored below minimum testing requirements for college entrance are developmental education students. According to the National Center for Developmental Education, developmental students

are students who have been identified as in need of developing skills to be successful in college level courses.

Pairing courses. Linking a developmental course with the college credit course to be taken during the same semester is pairing courses. The courses are taught by the same instructor in this study. Edgecombe (2011) stated that paired courses are offered as a unit with the same students in both classes.

Purpose of the Study

The purpose of this evaluative study was to determine if pairing developmental English with English Composition I courses would lead to a higher course completion rate of the developmental English-English Composition I sequence. Pairing a developmental course with a college credit course was the focus of this study; the study analyzed if this course delivery model led to a higher course completion, when compared to the traditional 16-week semester model. This study discussed whether pairing Developmental English with English Composition I led to higher learning gains in this course sequence when compared to students taking the courses in the traditional model.

Groups of students in paired sections were compared to students in traditional 16-week semesters. Students were compared in relation to course completion, learning gains, motivation, instructor pedagogy, and curriculum. The end result of the comparison measured completion rates of English Composition I. The course completion rate was compared between students taking the courses within the paired model to students taking the two courses in the traditional model. The students taking the course in the traditional model were selected from any course being offered during the semester; therefore, students with various instructors were included in this study. The focus of this study was students taking Developmental English and English Composition I in a paired course

delivery format. Challenges of developmental education students were explored in order to understand why changes in course delivery were necessary. The conceptual framework of this study was that the pairing of English courses will lead to a higher course completion.

Chapter 2: Literature Review

Developmental education courses are remediation courses for college students who have not mastered college level skills. The most common developmental education courses are in reading, writing, mathematics, and study skills, according to Texas State University (n.d.). Developmental education has served student populations that have not been deemed college ready due to low standardized test scores. The purpose of developmental education courses is for students to be remediated and thus be successful in college courses. Many times, developmental education courses are taken without offering students any college credit for the courses once completed successfully.

This literature review delves into various aspects of developmental education. First, the history of developmental education, tracing back to the 19th century, is explained. The historical explanation demonstrates how developmental education began, and how it evolved to the point where it entered a new phase with a focus on accelerating developmental education courses. Next, developmental education student challenges are explored. The challenges of developmental students support the notion that changes are needed in developmental education programs due to low retention and college success statistics. The experiences of students are also included in this literature review which articulates possible reasons for attrition in the traditional format, a 16-week semester. The research includes data that is available regarding past performance of developmental education students. The data includes statistics and survey responses from researchers. Student experiences are discussed by researchers who interviewed and surveyed students. Research also includes archival data of developmental programs and their success rates. Next, different course delivery options that encourage student success were a focus of this literature review. These course delivery options focus on accelerated models, with a

strong focus on learning communities and pairing courses. The purpose of the course delivery section is to support pairing developmental courses as a viable option to the traditional course delivery model of the 16-week semester. Research included discussed successful examples and advantages of pairing courses. The research also includes feedback from instructors and students. This literature review also includes some of the vulnerabilities and restrictions of pairing courses and program evaluations of developmental education interventions. The objective of this literature review is to include practical, current research that supports the need for pairing developmental courses, and to gauge whether or it will be an effective method of course delivery as opposed to the traditional course model, the 16-week semester.

Historical Context

Harvard University developed the first developmental education English course in 1874, according to Arendale (n.d.). During this time, Harvard instructors complained that students did not have the necessary writing skills to complete formal writing assignments. Remediation was necessary according to the instructors. Students were able to take this remediation course in place of an elective. In the United States, the need for developmental education increased after major historical events such as the Great Depression, World Wars I and II, and the Vietnam War. Arendale stated the need also expanded due to population increases, and more diverse students. In the 1970s, developmental education no longer focused only on remedial courses; learning assistance centers and cultivating a person through academic and social means began (Arendale, n.d.). Student deficits were no longer the single focus since educators did not concentrate only on how students process information. In the 1970s, educators began focusing on weak skill areas that were holding students back from showing their true ability.

According to Russell (2008), in the 1990s, many state policymakers started to take action regarding the high cost of remediation. By 2002, Russell stated that as many as 10 states discouraged or prevented public, 4-year institutions from offering developmental education courses; students would be referred to community colleges to complete developmental education courses. By 2007, 22 states have reduced developmental education courses. In these states, leaders of 4-year institutions raised standards, restricted funding for developmental education, limited developmental coursework, offered alternative course delivery methods, and shifted the costs to students (Russell, 2008).

Challenges of Developmental Education Students

Developmental students attending colleges and universities face many academic challenges. Unfortunately, these challenges are hard to overcome. Many students start in remediation and, of those, nearly 30% never attend the original or subsequent course, indicating that remediation for developmental college students has largely failed (Complete College America, 2011). A discussion about how students who are placed in developmental education classes may be more successful in completing their degree programs is also included in the article. Developmental education students, assessment, programs, and pedagogy need to be examined in order for students to become successful in completing degree programs. Bailey, Jeong, and Cho (2010) stated that many students who are referred to developmental education courses do not enroll in the course(s). Some students who enter college often have to complete three or more developmental courses in order to prepare for the college credit course. This sequence is a step-by-step model, and students must complete all courses in the sequence before having the opportunity to take the college credit course.

According to Russell (2008), the need for developmental education is especially important in today's economy. In order for America to compete globally, Russell said there is a need for having more workers than ever before to have a college education, and without developmental education, many college students will have much less of a chance to graduate with a college degree. Russell declared that the primary cause for students testing into developmental education is due to high school and college expectations being different. Students who meet all high school requirements may still not be prepared for college, as The National Center for Education Statistics indicated (Russell, 2008). The National Center for Education Statistics data revealed that 28% of college students entering college must take at least one developmental course in reading, writing, or mathematics, and 75 % of students graduating from high school in 2004 wanted to earn a college degree, making developmental education important (Russell, 2008).

Developmental education students have outcomes that are often below those students who enter at the college-ready level (Russell, 2008). However, these outcomes are more attainable once students complete developmental education courses. The basic point that Russell indicated is that students who take developmental education courses are less likely to achieve the same academic success as those who do not have to take developmental education courses. One statistic Russell included is regarding 1992 high-school graduates. Only 30% of graduates enrolled in developmental education courses completed a degree by 2000. Russell stated that new trends in developmental education are emerging. One of these trends is students taking two courses that reinforce each other.

In order to assess why students are not finishing developmental education classes and college in general, it is important to understand challenges of the developmental education student. First the term college ready must be defined. A student who is college

ready is prepared for a college credit course in general education without any remedial needs (Kallison & Stader, 2013). Many students entering college do not meet these expectations. Most colleges, universities, and school districts use high-school grades and standardized test scores to determine college readiness. Kallison and Stader found that only 25% of 2011 high school graduates met college ready benchmarks on the American College Test in the areas of English, mathematics, reading, and science. Therefore, developmental education students come to college without having mastered high school skills.

VanOra (2012) conducted a study regarding why students do not finish developmental college courses. Van Ora chose 18 student participants and provided them with a survey questionnaire that would encourage a discussion. The students attended community college and varied in gender, race and ethnicity. VanOra looked for general themes after analyzing the responses and uncovered two predominant themes: student challenges and student motivation. In the results, there were differences in college perception between older and younger students (Van Ora, 2012). Older students were motivated by wanting to contribute to society while younger students spoke in more positive terms about their college experience. The challenges were grouped into to three separate themes: demands on time, difficulty of coursework, and inadequate pedagogy.

According to Van Ora (2012), students' demands on time interfered with focusing on developmental courses. In the survey, some students reported working schedules of more than 30 hours per week, while others had families and were the primary caretakers. One student said that trying to earn a college degree and raising a baby at the same time was very challenging. Based on the survey results, students were not academically prepared for developmental courses. Seventeen out of 18 students described struggling to

pass courses. Students made statements about the length of classes, teachers who intimidate students, lack of reading and writing skills, and difficult assignments. The majority of the students in the study were critical of instructional methods used in developmental courses. Students felt that instructor pedagogy did not foster their development in the course. VanOra (2012) stated that more than half of the students in the study commented on ineffective teaching pedagogy. Students would like to have seen instructors connect the course material to their interests. Overall, students said there were not many times instructors made life connections with course curricula. Students also said that instructors would rely on textbooks too much.

Undergraduate Student Experiences in Developmental Programs

The experiences of students who were enrolled in developmental classes were documented by Koch, Slate, and Moore (2012). To begin, the authors stated that many students felt disappointed by having to enroll in a developmental course, and less than 40% of students who needed multiple developmental courses completed the entire sequence. In the study, Koch, Slate and Moore wanted to explore the experiences of developmental students at community colleges in Texas. Three college students were used in the study. The students were taking one developmental class at a time, so they were not paired with college level courses. The students used in the study had to be an accredited high school graduate, and be enrolled in a sequence of developmental courses in Texas. One of the participants was repeating a developmental writing course, while the other participants were taking the second developmental mathematics class. The essential questions of the study focused on student perception and how developmental courses will assist in meeting long-term academic goals.

In the first part of the study, Koch, Slate and Moore (2012) included initial

reactions to being placed in a developmental course. All participants showed a negative reaction to being required to take a developmental course. Some students felt that high-school experiences did not adequately prepare them for college, and some felt stigmatized for having to enroll in a developmental education course. During the class, participants had positive and negative feelings about being in the developmental course. Negative feelings were due to academic rigors of the course and not having enough support. The positive support was associated with instruction. The participants commented on having to receive additional instruction outside of their classes by using an extended learning laboratory, mathematics laboratory, and writing laboratory (Koch, Slate & Moore, 2012). This study demonstrated how it is necessary to have additional support beyond just taking the developmental course.

Alvarez (2008) researched the effectiveness of developmental English classes. Alvarez first discussed from the Florida Department of Education, that there is an ongoing need for developmental programs because of numerous high school graduates who lack the skills to be college ready. The study focused on the rate of developmental English students passing English Composition I. Included in the study were students who completed a developmental English course, and English Composition I students who were not required to take developmental English, since they were deemed ready for college coursework. Students were placed in developmental classes based on standardized test scores. The sample population was 2,348 students. Only students who completed developmental English and English Composition I at Seminole Community College were included in the study.

Results from Alvarez (2008) indicated students who did not take the developmental course performed slightly better. Only 7% of students taking a

developmental course achieved an A in the English Composition I course while 20% of those students not taking developmental English earned an A. There were slight differences with a grade of B, with the developmental percentage being 26% versus 29% of nondevelopmental students. Only the grade of C had a higher percentage, 35% for developmental students as compared to 21% of nondevelopmental students. The failure rate for students who had to take developmental English was 32%. Students who did not take developmental English failed at a rate of 30%. Alvarez offered explanations for the data. One explanation given was that writing topics and assignments in English Composition I are typically more complex than developmental English writing topics. Alvarez also concluded that the developmental English course may not have effectively prepared students for English Composition I.

Boulard (2010) documented the experiences of Zollars, an associate professor of developmental English at Patrick Henry Community College in Virginia. Zollars contended that developmental courses are needed so students not only build academic skills, but also their confidence. Zollars commented that many developmental students suffer from self-esteem issues due to having to take a developmental course in the first place. Zollars further said that some students entering college who are in their 50s or even older, have not written a paper in 30 or 40 years. These students may have forgotten how to complete certain tasks. Boulard also included comments from Nolting, a learning specialist at State College of Florida, who also advocates for developmental courses. Nolting said that new programs should be in place. Nolting said that new approaches that center on students are needed for them to be successful since the failure rate is so high.

Bueschel (2008) contended that many students are taking basic skills classes that they have seen throughout school taught multiple times in the same way, but the results

are not successful. These students have a high chance of failure, according to Bueshel, because they have not mastered a way of becoming a good student. In order for them to master content, they have to know how to be a good student. One problem Bueshel acknowledged is that developmental students may need to take developmental mathematics or English in order to take the college credit mathematics or English courses, but they do not have to for other content courses. For example, students taking developmental English may also be taking a college credit course in history or biology.

Problems in developmental education have created some innovative ways to deliver developmental education courses (Bueshel, 2008). Bueshel stated that one of the most common new formats to deliver developmental classes is to use the learning community format. Bueshel described this format as one in which the developmental course is paired with the college credit course. For example, a student taking developmental English is also taking the college credit English course. Bueshel said that the purpose of having a learning community is for students to be in an environment where students know their classmates and instructors better, and learning is reinforced across the paired subjects. In addition, the learning community may become a teaching community because instructors may have conversations about syllabi, pedagogy, and students. Bueshel included an example from Merced College in which a reading class is paired with an industrial design class. The reading instructor included a software manual from the industrial design class as one of texts. The industrial design instructor attended most of the reading lessons which provided the instructor insight into what students understood in the industrial design course.

While Bueshel (2008) maintained that educational innovations usually have mixed results, results in many studies are encouraging. Some reports may show that even

when course success rates may not have increased significantly, student persistence does. Further research cited by Bueshel indicated that students who are enrolled in nontraditional formats are often more engaged, perform better, and persist longer than students in the traditional model. Additionally, Bueshel said when students are in nontraditional formats, students become more engaged because feedback is more consistent, and students are most often actively sharing with others. For example, Bueshel included dialogue in a reading and writing learning community that who says students are given multiple opportunities to understand and apply new concepts. Both of the instructors gave more examples and assigned more group activities on the computer and the board, which allowed a more hands-on pedagogy. Another student example is a student from Chabot College. The student said learning communities help build trust in themselves and the learning community. The student also said help from classmates was readily available. Bueshel maintained that students in learning communities become more connected to the college and their peers. Bueshel said many approaches should be used in course delivery and pedagogy since students have different learning styles.

According to Southard and Clay (2004) approximately two thirds of Florida high-school graduates are required to take developmental courses before college level courses can be attempted. In 1998, more than a quarter of students did not complete the required developmental coursework. Southard and Clay's study assessed whether or not the developmental English course, College Pre English II, was adequately preparing students for Composition I. Southard and Clay focused on the developmental English course from several aspects. The first aspect was to examine the effectiveness of requiring that the developmental course be mandatory. Another aspect was to examine how successful students were when taking Composition I immediately after completing the

developmental course, as opposed to waiting a semester or more later. Southard and Clay also addressed the curriculum of the English developmental course. At Arizona State University, developmental courses that only focused on grammar were deemed to be ineffective. However, when the developmental program focused on writing, students were better prepared for Composition I. Southard and Clay also stated that researchers have found greater success is realized when students are required to take developmental courses, so developmental course participation should not be optional.

Students who took Composition I immediately after completing the developmental course had a high success rate (Southard & Clay, 2004). In fact, the success rate was higher for students who took Composition I immediately after the developmental course than the pass rate of students who were not required to take a developmental course, according to Southard and Clay. The rates were 74% as opposed to 63% respectively. When pairing courses, one of the benefits was that students completed the courses at the same time which allowed little time for students to forget the material (Southard & Clay, 2004).

Specific Course Delivery Model

The scheduling of paired courses assists students by providing connections between one subject and another or by providing a faster course delivery system. In other words, students are able to complete degree requirements more quickly when courses are paired. Paired courses also provide additional practice for students by applying new skills in another class (Cengage Learning, 2013). Students benefit by having courses paired in some of the following ways: (a) improved retention and achievement, (b) increased student involvement, (c) enhanced authentic learning opportunities, and (d) increased intellectual development. In addition, instructors of paired courses benefit by (a) using

new teaching approaches, (b) revising course content, and (c) developing new scholarly interests class (Cengage Learning, 2013).

Bailey, Jeong, and Cho (2010) discussed the sequence of developmental courses. In their study, they declared that the traditional sequence revealed confusion. The researchers supported this argument because many students either do not enroll in developmental education courses to begin with, or ignore recommendations. Bailey, Jeong, and Cho compiled 75 different pathways students took once they enrolled in a developmental education course. These different pathways included passing, failing, and not taking subsequent courses. Bailey, Jeong, and Cho recommended colleges combining several levels of instruction into a longer more accelerated format. The recommendation included registering and scheduling students for the next course while they are still in the previous course. The researchers stated that developmental education courses should have some form of acceleration in order for students to be more successful not only in completing developmental education courses, but also beginning college credit work.

Perin (2002) said that successful developmental programs include using coursework that goes beyond the developmental curricula. Perin suggested pairing courses as a way to integrate remediation and higher-level instruction. Perin said pairing will provide a link between precollege developmental courses and college-level courses. Perin further stated that this meets the purpose of developmental education since the purpose of developmental courses is to prepare students of college level academics. Pairing of courses gives students an opportunity to use reading, writing, and mathematics skills that they have acquired in developmental classes. Rather than waiting an additional semester to apply these skills, students are able to apply the skills in the same semester with a course that corresponds to the skills learned in a developmental education course.

Perin suggested that in order for pairing of courses to work, it is best that developmental education subjects be mainstreamed. Mainstreaming means that the courses are offered in an academic department rather than a separate developmental education department. To illustrate, developmental English should be in the college's English department. Perin contended that when courses are paired, interaction between developmental and college level instructors is needed because successful course pairing needs collaboration from both instructors. The only barrier to the paired course delivery model is if state or institutional guidelines mandate that students may not take college credit courses until developmental courses are completed. Perin declared that these mandated policies do not meet the interests of students.

Learning Communities and Packaged Courses

Wilcox, DelMas, and Stewart (1997) discussed paired courses in the context of a learning community. In the paired program described, students who were enrolled in developmental education courses were enrolled in four linked courses. The course selection included writing, mathematics, study skills, and a content area course. Each developmental course was linked to a content course. The content course gave students college credit, whereas the developmental courses did not. Wilcox, DelMas, and Stewart explained that a package program was necessary because developmental students create many challenges for college educators and advisors that want students to succeed. The students that they encountered were often immature, did not put forth effort, and had a perception that required courses were a waste of time. In addition, developmental students knew very few people on campus and were separated from family and friends for the first time in their lives. Developmental students also did not see faculty and advisors as people who could be used as a resource, and they were already at risk when

entering college for the first time. Therefore, Wilcox, DelMas, and Stewart stated that creating a community would be especially relevant for these students. In this paired package format, students would be coregistered and courses would often center on a common theme or major. Students usually had different instructors for each packaged course.

Wilcox, DelMas, and Stewart (1997) stated that this package format was used at the University of Minnesota, Twin Cities. The developmental education program at the University of Minnesota was housed in the General College. The General College included developmental education courses that did not grant college credit and served approximately 800 underprepared traditional and nontraditional students each year. The program was considered a starting or entry point for these students. More than half (52%) of General College students were first generation students and 57% lacked one or more high school requirements. The students attending General College were placed as high risk students. The package format was successful; students in the program had higher grade point averages than those who were not enrolled in the program. The initial term grade point average for the students in the packaged program was 2.73. Students not in the program had a grade point average of 2.60. In the fourth term, grade point averages were 2.51 and 2.43, respectively.

The University of Hawaii community college system used learning communities as a way to encourage college credit completion. This course delivery format was enacted by a committee, called the White Paper Group. A change was needed in the system since the university researched that being academically underprepared for college is a major risk factor for retention. The White Paper Group defined learning communities by pairing a developmental course with a college level course. The white paper group used the

pairing method because their research indicated that students were more successful when they directly used skills from the developmental course in the college credit course (White Paper Group Committee, 2006).

Further research indicated that having isolated developmental courses did not correspond to current research. In addition, the group determined that developmental courses using a traditional course delivery model usually did not offer any college credit, leading to negative motivation. In a learning community using the paired course format, students have the opportunity to earn college credits since they are taking the college credit course in addition to the developmental course. The group's research found that learning communities were successful because the same groups of students were in the courses. The learning community approach was also successful because students were integrated into the social and academic realms of the school (White Paper Group Committee, 2006). Further research that the group included by Arendale (2008) demonstrated some of the reasons that having a learning community can help positively affect students leading to retention in academic programs. Arendale divided retention factors by separating them into academic and social/psychological factors. These factors can lead to student retention and persistence. The first academic factor of retention, according to Arendale, is for students to continue to progress toward educational goals. When students see progress, they are more likely to have positive results, according to Arendale. Academic success is the next factor. Then having clear advising, support and program options were other factors that can lead to retention. Arendale also discussed the social and psychological factors that lead to a staying environment. The first factor was to have a supportive environment. A support system is often needed for students to be successful. The next factor was to have social integration. Students should feel part of a

community. The next social or psychological factor was personal involvement, in which students feel a connection in the learning community. The last two factors are having a positive identity and high self-esteem. These factors will motivate students by giving them confidence.

Wilcox, DelMas, and Stewart (1997) included research from Miller, Brothen, Hatch, and Moen (1988) who explained that packaging courses was previously successful before the aforementioned study. In the Miller study, students took science, history, and two sections of composition. The composition sections were geared towards developmental writers. The study indicated a higher percentage of students with grade point averages above 2.50 after three terms than those who were not in the program. In addition, students had better completion rates. Also, instructors felt that a community was formed.

Overall, Wilcox, DelMas, and Stewart (1997) stated that students who took linked packaged courses demonstrated higher academic achievement and course completion. Faculty reported that students in the packaged courses were more engaged and interacted more in the classroom than those who were not in the program. First, faculty were able to connect courses so multiple learning opportunities and chances to apply skills were being emphasized developmental education courses. Second, faculty was able to meet regularly to ensure the success of the program. Third, package courses provided students with more resources, such as academic advising, and peer assistance. Last, faculty and students were able to connect since they were expected to develop a supportive community.

Learning communities are another popular format for pairing courses. VanOra (2012) suggested learning communities where developmental English courses are paired with content courses counting as college credit. For students to achieve optimum success,

VanOra believed colleges and universities must be centered on the student. Van Ora explained students with multiple responsibilities may be helped by no longer labeling students as failures due to taking longer than 6 years to complete a degree in the community college system. VanOra also stated more support is necessary for all developmental students, and learning communities need small class sizes, personalized attention, and student support.

Traditional Course Delivery Alternatives

Diaz (2010) interviewed Rosemary Karr about how developmental education programs are changing. Karr is a developmental educator who has won numerous awards for teaching excellence such as the U.S. Professor of the Year for Community Colleges and the Carnegie Foundation for College Teaching and Learning. Karr discussed how programs have changed formats. Karr included examples from Collin College, where developmental classes use several different formats such as the following: computerized learning pods, online accelerated courses, bridge programs, and learning communities. Karr thinks that accelerating developmental courses should be available as a course delivery option.

According to Boylan (1999), pairing developmental courses with a college credit course is a viable option. Boylan stated that in the paired course model, one course should supplement the other. One course is intended to have a skill focus, while the other focuses on content. Boylan further states that paired courses have been successful in the assisting the performance of developmental students. Boylan stated that developmental students in paired courses tend to have better performance and greater satisfaction than students taking courses in the traditional model.

Harley and Cannon (2007) also reported success in pairing courses. Harley and

Cannon discussed a pilot program at Saginaw Valley State University in which a developmental English course was paired with a college credit English course. In the pilot program, students had increased classroom time, more collaboration with peers, and tutoring from upper class students who had already completed the college freshman writing sequence. The final assessment was a holistically graded portfolio scored by faculty who were not part of the pilot program. Over 80 % of the students passed the combined courses with a C or better.

Many students enrolled in developmental education courses are English as a Second Language Learners (ESL). Kasper (1994) found that ESL students were more successful when courses were paired. Kasper stated that many ESL students become frustrated with the traditional formats of college courses. The frustration becomes more prevalent when ESL students are mainstreamed into academic content courses while still being enrolled in ESL classes. In order for these students to be more successful, the ESL course should be paired with an academic course rather than having students take the classes in isolation, Kasper contended. In the study, the researcher found pairing an ESL reading with a content area course in which a significant amount of reading is required, led to higher reading scores. Kasper also contended that paired courses will lead to a better overall learning situation for students. Kasper said that paired courses allow ESL students to review curricula in a supportive and comfortable environment. This allows students to not get overwhelmed. The skills introduced in the ESL course are reinforced in the content course. The pairing of courses also reduced the amount of anxiety that ESL learner had when dealing with the traditional lecture format that content area instructors typically use.

Kasper (1994) taught two sections of an ESL reading course. One was paired with

an introductory psychology course. Students would not receive college credit for the ESL course, but they would receive college credit for the psychology course. The other ESL reading course was not paired, and it was taught in the format that Kasper had used in previous semesters. The reading classes met for 6 weeks for a total of 36 contact hours. At the end of each 6 weeks, the ESL students took two assessments, the City University of New York Reading Assessment Test and the Kingsborough English Departmental Examination. The City University of New York Reading Assessment Test is a timed multiple choice test that students must take to prove they are proficient college readers. Students must pass the examination in order to continue beyond 60 college credits. The Kingsborough English Departmental Examination is a reading and writing test that was devised by a committee of Kingsborough English department faculty members. On this test, students read passages and write answers to inferential questions based on the reading passages. The test scores indicated that students in the paired classes performed better than those who did not. On the City University of New York Reading Assessment Test, 43.8% of students passed, as compared to 42% of those in the nonpaired section. While this statistic may seem minimal, Kasper points out that the average grade for students in the paired section was higher, 27.3 versus 22.5 respectively. In addition, the students who failed the City University of New York Assessment Test failed by an average of 4.6 points in the paired section. Students in the nonpaired section failed by an average of 13.6 points. In the content course, none of the students failed. The grade distribution was the following: (a) 67% A, (b) 11% B, (c) 22% C.

Students performed better in the paired section as opposed to the nonpaired section for several reasons, according to Kasper (1994). First of all, the academic content course included sophisticated reading material and the ESL reading course provided

additional support so that students would have a better opportunity to understand the material. The ESL reading course reinforced reading skills including vocabulary acquisition which was needed in the content course. Next, students were exposed to two different approaches. In the reading course, students were exposed to a linguistic approach, while in the content course they were exposed to a psychological approach. Kasper believed these approaches allowed the students to process the material with a deeper understanding. Kasper advocated pairing courses because pairing leads to a solution of students with academic problems. In Kasper's study, students were exposed to a variety of different curricula rather than just the curricula in one course. At the end of the 6-week semester, students answered questionnaires regarding their experience. In the questionnaires, all 16 students thought pairing the two courses was a good idea. Students thought the ESL course helped them with the work in psychology. Students said the ESL course was beneficial because due to providing the opportunity to review concepts and deeper explanations of the psychology course material.

Sometimes colleges may offer compressed courses so that students will be able to complete a pair of courses in the same semester, but will complete them separately. The courses are compressed, meaning that each course is taken in an abbreviated time. For example, a student would take the developmental course in the first 8 weeks of the semester, and then the students would take the college level course in the other 8 weeks of the semester. The courses are paired together, but are taken at different times. The courses are compressed, so students are enrolled in the course sessions for longer amounts of time. For example, rather than having 3 hours of instruction a week, students would receive six. Sheldon and Durdella (2010) researched students taking compressed developmental education courses at a suburban community college in southern

California. Sheldon and Durdella concluded that students enrolled in a compressed format were more likely to succeed than students in the regular 16-week semester. In the study, the researchers found the highest success rates were in the 8-week compressed English course and found that there is a higher level of motivation when students are taking a compressed course. In terms of instruction, students thought that there was more time for student-instructor interaction in the compressed format; however, students reported that less time was given for assignments. Sheldon and Durdella's study compared success rates for students in at least one compressed developmental course as opposed to students taking the same developmental course in the regular 16-week semester. The success rate was defined as a student passing and completing the course.

Sheldon and Durdella (2010) found the highest success rate was among students who took English in the 8-week format. Students in the 8-week compressed course had a success rate of 86.90. Students in the regular length course had a success rate of 56.70. However, it is important to underscore the success rate of a 5-6 week compressed course, which only had a success rate of 75.80. The success rate is still higher than the 16-week semester, but lower than the 8-week semester. The results of Sheldon and Durdella's study indicate the scheduling format of the course demonstrated significant differences in the success rate of developmental students. Therefore, Sheldon and Durdella stated practitioners might want to revise the way developmental courses are offered so maximum learning potential is achieved.

Scordaras (2009) found the method of course delivery, the compressed or accelerated format, did not have the same benefits. Scordaras's study was conducted on remedial ESL students enrolled in developmental education courses which focused on ESL students who were taking reading and writing ESL courses during a 6-week winter

session rather than the 12-week spring semester. The study focused on two lower-level ESL students. Scordaras's case studies are intended to represent weak ESL students who are enrolled in an accelerated course. Scordaras said the study revealed students' first written assignment demonstrated serious deficits cannot be improved over only 6 weeks, despite strong efforts by students. Scordaras also explained how the class demands and time constraints affected the ESL students, since students who are in compressed courses take the course in half the amount of time, but still have to master the same amount of material as in the traditional course delivery format.

Scordaras (2009) found time constraints to be a significant issue with both students. In the first case study, Anya, Scordaras says Anya could not complete all of the required essays. Four essays were required, and she could only complete three of the essays. Anya was diligent in working on drafts, but Scordaras said she needed much more time to complete each draft. Anya did not pass the course because her writing portfolio failed in two out of three areas that were required to pass: development of ideas and language usage. The second case study focused on Pascal. Pascal also did not pass the course due to failing two out of three areas as well. Scordaras also said there was an insufficient amount of time for Pascal to complete the course requirements. The third essay had taken Pascal to the end of the course to complete, and there was no time left for him to start the fourth essay, required in the course. Overall, Scordaras stated that in the compressed course delivery format, students should work on more than one area of writing at a time. However, Scordaras contended not all students have the skills to do so. Scordaras also stated Anya and Pascal could have worked differently on their writing if more time was available in the course. For example, Scordaras contended one essay might take 3 to 4 weeks to be fully completed, and multiple skills would not have to be

addressed at the same time. Scordaras stated compressed courses do not offer enough time for students to master the course. Students are often convinced that this course delivery format may help them since the course is completed in less time. Scordaras endorsed enrolling lower level ESL students in longer class sessions, which will encourage students to self-pace and avoid having to take the next course 2 or 3 weeks later with a different instructor. Scordaras contended this method of course delivery does not always achieve positive results for lower-level ESL students.

Pairing courses can lead to greater academic achievement (Tinto, 1998). Tinto stated that Hunter College links two writing course with a college credit American history course. The history course is designed for developmental students. Hunter College began linking the courses because they found that developmental students often drop out of college because they do not earn many college credits. Tinto stated when the courses are linked, students receive writing skills instruction, gain experience in a content course, and have the opportunity to earn college credit. Students took the City University of New York Writing Assessment Test and 90% of students in the paired courses passed both courses and the writing assessment. This is a contrast to students who were not in the linked courses; students not in the linked courses had a pass rate of 40 to 75% over six semesters from 1988 to 1991.

Tinto (1998) also discussed an integrated program at Sacramento City College. The program was called the Higher Education Learning Package. The program integrated writing, study skills, reading, and a content area course. The program was initiated for nontraditional, high risk students. The Higher Education Learning Package not only wanted to assist students by allowing them to earn college credit, but also as an effort to reduce the isolation between content courses and developmental courses. The learning

package demonstrated successful results. Students in the program had higher grade point averages and better retention than a control group.

At Spokane Community College, students were paired in a study skills course with a psychology course. At the beginning of the semester, 70% of students in the linked course tested at the developmental level. At the end of the course, the students in the paired course had a higher completion rate and performed better on the same tests than the control group (Tinto, 1998). Pairing courses continued with biology and study skills courses being linked. The results demonstrated that students in the linked courses had a higher completion rate than those students who were only in a nonpaired biology course (Tinto, 1998).

In addition, Tinto (1998) also discussed the positive outcomes of paired courses at Skagit Valley College. The students were in a “cluster” (p.6) in which a reading course, an English Composition course, and psychology course were paired together. The students in the cluster had low placement test scores, but performed just as well on objective tests as students not in another psychology section who were not in the cluster. Students in the cluster of paired courses retained information comparable to the control group. It was also reported that students showed a willingness to learn. Based on Tinto’s (1998) research, he indicated that the paired, or linked, course model is a successful model. Tinto believed that the model should be used in situations when student learning needs are limited and developmental instruction is focused on one area of instruction.

At Houston Community College, students were paired in a developmental education course with a student success course. The college has found students’ social and academic engagement increases when developmental students were in the paired course format. Persistence was 20% higher for students in the paired course format as

compared to the control group (Achieving the Dream, 2013, para. 9). Furthermore, at Norwalk Community College, developmental English students were paired in a student success course. Pairing courses allowed students to apply student success strategies and writing skills in both courses. Critical thinking was emphasized in both courses. During the 2009-2010 school year, 28% of their eligible students enrolled in the paired format (Achieving the Dream, 2013, para. 9).

Advantages of Undergraduate Course Pairing

Hanover Research (2013), conducting a study for the Tarrant County College District in Texas, indicated multiple advantages to pairing developmental education courses. Pairing courses was included in the college's accelerated learning program. Hanover's definition of the paired course model is when a school connects a developmental course to a college level course in a similar subject. Pairing allows students the opportunity to learn the content of a college level course while still learning the basic skills that are taught in a developmental education course. Hanover stated that the coverage of material should be consistent between the two courses. Hanover Research (2013) advocated pairing developmental courses because students typically receive more support. Students are able to connect more with peers, and the instructor. Hanover stated that the structure of the program gives more of a connection with peers and instructors. Students' frustration about not taking college credit courses is also eased, according to Hanover. Interventions are also more likely to occur in this course delivery model since there is curriculum is blended in the two paired courses. Hanover also suggested that numerous studies indicated that students who are enrolled in paired courses show better performance and satisfaction as opposed to students who take developmental courses in a traditional course format.

Community College of Baltimore County used pairing as part of an accelerated learning program during the 2007-2008 academic year, according to Hanover Research (2013). In the accelerated learning program, students were paired in two English courses, ENG 101 and ENG 052. ENG 101 is the traditional college composition course while ENG 052 is the developmental English course. In this pairing of the two courses, ENG 052 functioned as a workshop (Hanover Research, 2013). The pairing allowed instructors to address questions that may not have been answered in ENG 101. Instructors were able to address the writing process in more detail, including drafting, grammar, and mechanics. Discussions about college success and any conflicts in ENG 101 were also addressed. The assignments in ENG 052 were able to reinforce ENG 101 skills. Therefore, Community College of Baltimore concluded that pairing ENG 101 with ENG 052 offered more support for students (Hanover Research, 2013).

Hanover Research (2013) stated much of the success that Community College of Baltimore experienced with pairing courses was due to the structure of the program. Students were able to start earning college credit immediately even though they were placed in a developmental course. Students would also spend more time with the instructor, 6 hours per week, since the instructor taught both courses. Also, since the developmental students were included in the college credit courses with nondevelopmental students, they were exposed to students who could write at a higher level. Thus, some of these higher level students were able to serve as role models.

The results for the paired courses model were encouraging at Community College of Baltimore. Students who took ENG 052 traditionally in 2006 had a success rate of only 27% within 3 years. Approximately 22% of students who passed ENG 052 in the traditional format did not even enroll in ENG 101. However, from 2007 to 2009, the

students in paired format had a success rate of 63% within 2 years. A 2012 followup study stated there were substantially better outcomes with students enrolled in the accelerated/paired model. Last, this course delivery model also demonstrated that pairing the courses can be cost effective. The accelerated program costs the college \$2,680 while the traditional sequence costs \$3,122 (Hanover Research, 2013).

Pairing courses allows students to transfer skills to college credit courses. Koski and Levin (1998), from the Educational Research and Development division of the U.S. Department of Education, researched accelerated college remediation programs. The researchers found that it was necessary to link skill-building remediation courses to content-based courses. Koski and Levin reported positive results from pairing developmental and college-credit courses. Remediation programs taught in isolation do not give students the chance to immediately transfer the skills to a college credit course (Koski & Levin, 1998). Remedial programs taught isolated from regular academic programs do not give students the chance to demonstrate the skills that they are learning (Koski & Levin, 1998). In a report, Koski and Levin defined paired courses as two courses that were linked in a college credit content course and a remedial course. The remedial course may be taught independently of the content course or taught with both instructors collaborating together. In pairing the courses, the ideal method is to have remedial coursework relate to the content coursework.

Pairing courses may lead to several positive outcomes. Some of these outcomes relate to student persistence, enhancement of the college experience, and increased academic achievement (Koski & Levin, 1998). Koski and Levin provide six reasons for success at California State University at San Bernadino. These six reasons are that courses (a) have a definable purpose, (b) offer support, (c) challenge students, (d)

promote participation, (e) are flexible, and (f) deliver what they promise. Koski and Levin believed pairing courses will result in a more realistic outcome for students by further stating that knowledge is not separated by basic skills and content. When students receive remedial skills transferring to a content area course, the hope is the skills will transfer to real world problems. The example Koski and Levin used is one that relates to a developmental writing course and a history course. Students who are receiving remediation in the developmental writing course can transfer those skills to writing an argument for a history course that they are taking at the same time. Koski and Levin further acknowledged students who take paired courses persist in college at a rate similar to the general student population.

The next part of Koski and Levin's report focused on paired courses at various universities. The first university Koski and Levin discussed was Sam Houston State University. At Sam Houston State University, students in remedial reading classes were able to also take a beginning history class with a significant amount of reading. Students were placed in remedial courses if they did not pass a section of the Texas Academic Skills Test that corresponds to the skill. The program was a collaboration between the history department and the language, literacy, and special populations department. The remedial students met in a history lecture course with 270 other general population students and were also assigned to one discussion group taught by a graduate assistant. The remedial students were also enrolled in a remedial reading course required by state legislation. In the reading class, a professor taught the course by using required texts from the history class. In addition, the reading tutors in the learning assistance center read the history texts and were available for additional assistance. The history professor, graduate assistant, and the remedial instructor frequently met to address the needs of the courses.

The program was successful. Students' attitudes were enhanced. At the beginning of the semester, the history professor distributed to all students a survey assessing attitudes regarding reading and academics. The class average was 58 and the average of the remedial students was 36. At the end of the semester, the class average was 79, and the average of the remedial students was 80. Additionally, remedial students made larger learning gains than nonremedial students. A 100 question history content examination was administered to students at the start and end of the semester. Remedial students saw an average increase of 36 points, while nonremedial students saw an average increase of 26 points. Last, all of the remedial students passed the Texas Academic Skills Test.

According to Koski and Levin (1998), Georgia State University also paired a developmental reading course with a college credit history course. The reading curriculum focused on traditional learning strategies, metacognition through learning logs, learning styles analysis, observations of students' behaviors, and strategies that assisted students to read, write, and think about the study of history. In the paired section, 88.7 % of students passed the history course. The regular admitted students passed at a rate of 86.9 %.

Georgia State University also paired mathematics courses for remedial students (Koski & Levin, 1998). Students were coregistered in a developmental algebra course and a college algebra course. The developmental course developed ways students can collaboratively learn and reduce anxiety. The population in this paired section was somewhat different than the reading and history paired sections. Students in the developmental mathematics section were a combination of the following: (a) former remedial students who needed further academic support, (b) students who were not successful in a previous college algebra course, (c) students interested in mathematics

assistance. The students were in a college algebra class with other general population students. The end result was students who were also in the developmental class earned a higher mean grade in the college algebra course, 2.25 as compared to 1.57 for students who did not take a developmental course. In addition, 100% of developmental students passed the college algebra course while 80% of those students who did not take a developmental course passed.

The Charles A. Dana Center (2012), the research center at the University of Texas at Austin, also encourages pairing courses. The center uses the term corequisite model to describe pairing courses. The research center supports the use of pairing courses and using applications and contexts that support developmental skills which correspond to students' majors and career paths. The research center also evaluated corequisite approaches to show that this model may develop higher course completion rates in introductory college courses, higher grades, higher student persistence rates, and higher credit accumulation (Charles A Dana Center, 2012). One of the most popular approaches is the Accelerated Learning Program, which pairs college level English courses with a supplemental support course. In the accelerated model, one instructor teaches both courses, and students in the college credit English course are mixed. Developmental students take the course with nondevelopmental students. The last recommendation the research center makes is one relating to the general population, students who do not test into developmental courses. The center says students would also benefit from a corequisite course. The center is currently using corequisites with two mathematics courses. Overall, the center says using a corequisite model may be successful, but may not be an approach that solves all problems with remediation.

According to Hysell and Keener (2011), pairing developmental education courses

was also implemented at North Central State College in Mansfield, Ohio. Starting in 2010, students enrolled in paired developmental English with the college level English course. In North Central State College's paired program, students took both courses at the same time with half of the students from the developmental section joining one college English class, and the other half joining a different college level English class. Students had the same instructor for both courses. Two instructors were used, one full-time and one adjunct. There were some challenges in order for the pairing of these English courses to be successful. First, scheduling and registration had to be addressed. Hours for the writing course increased from 2 to 4 hours, and a new course number had to be created. The paired courses were not considered to be ideal for low level students based on college placement test writing scores. The pairing of English courses was a success for North Central State College, with 67% of enrolled students completing both courses with a C or above during the four quarters of the program while the completion rate for students in the traditional sequence was 39.4% (Hysell & Keener, 2011).

In the Barnes and Piland (2010) study, pairing courses in English at an urban community college located in Southern California was evaluated. The college chose to pair classes after finding research that cited effective practices in linking courses with a common cohort of students. This community college was experiencing problems in student success and retention. For example, from 1995-2004, 40% of first-time freshman students enrolled in the fall term did not re-enroll in the following spring term. Additionally, in 2006, over 35% never attended, dropped, or withdrew from all classes before the semester ended. The paired courses in the Barnes and Piland study consisted of paired sections of developmental writing and developmental reading. The students in this study were one or two levels below college level English course. The faculty

collaboratively developed the courses, and offered support services such as tutoring. The faculty teaching the paired sections received additional faculty development training and additional planning time to develop the courses. The study investigated whether or not pairing the courses would be effective in terms of improving student success and whether or not gender and ethnicity played a part in student success. Student success was defined as finishing the semester and continuing into the next semester. The methodology used was to include all students in developmental English. The comparison group was a random sample of students who took developmental English in a traditional semester to semester format. Persistence to the next semester was defined as being enrolled at the end of the drop deadline in the next semester. Data was collected by instructors who entered grade criterion in a computer mainframe. The results showed developmental English's success rate was higher for students in the paired sections. Barnes and Piland (2010) stated when the courses were grouped by level, retention was much higher for learning community students as opposed to nonlearning community students at the English 042/043 level and the English 051/056 level. However, when looking at the courses from one level above, such as ENG 042 and ENG 056, there were not significant differences.

Bridging independent and dependent variables. Venezia and Hughes (2013) stated there is not a clear way to define student success due to the various reason students enroll in college. Thus, this study will feature multiple independent and dependent variables. A dependent variable to this study is attendance. Learning gains and course completion may correspond to attendance rates. Moore (2008) stated nearly one-third of first year college students come to class tardy occasionally or frequently. In Moore's study, the importance of attendance and how attendance corresponds to course completion and grades was analyzed. Moore studied developmental education students

and their attendance patterns during biology classes. Moore found that high absenteeism correlated with lower grades.

Another dependent variable is course participation. Participation in a course can vary for different individuals. Participation in developmental courses is crucial to course success. Moore (2008) declared that developmental students who earned the highest grades in two developmental courses also had higher rates of participation. Moore studied participation in two developmental courses, one being a developmental English course, and found that students who participated in class, attended help sessions, and submitted extra-credit work had higher grades. Moore's results indicated students' academic behaviors in developmental courses are accurate predictors of students in primary college courses. These dependent variables of class participation and attendance may affect independent variables such as course content, course objectives, and course grades. Students who are not attending class or participating minimally may not achieve high learning gains or course grades based on research from Moore.

Vulnerabilities of Pairing Courses

Even if developmental education courses are paired, problems may arise, especially with pedagogy and student resources. According to Edgecombe (2011), research indicates skills must not be taught in isolation. Skills taught in developmental courses have to correspond to the context of college credit courses. Therefore, if paired courses are still teaching skills that are not applied to college credit courses, this still limit the success of students. Edgecombe suggested that teachers of developmental education should address diverse learners and use various instructional methods. If students in developmental courses are still being taught with traditional methods, such the lecture rather than using strategies such as discussions, group projects, and modeling, students

may still remain unsuccessful in the subject matter. Edgecombe stated developmental education should not just teach skill deficits, the whole student must be developed. In order to have a successful developmental education program, affective and cognitive needs should be stressed when teaching developmental education courses, according to Edgecombe. If students are not monitoring their own learning, students may also not be successful. In addition, Edgecombe declared learning support is needed for student success. If a school does not have support campus tutoring and learning support centers, this lack of resources can also impede student success.

Student recruitment may also be an issue when pairing courses. According to the White Paper Group Committee (2006) at the University Of Hawaii, recruiting students into accelerated models of developmental education can be challenging since these interventions are new and many students are not even aware of the models. The White Paper Group Committee stated students rush into selecting courses and course selections are often made from course catalogs, fliers, and emails. The committee suggests decisions on course selections should be made from active resources such as advisors and program staff when students decide developmental courses. In addition, the White Paper Group Committee said if students do not know about accelerated developmental education models, students will not register which will cause a problem with course capacity issues because courses will not meet the minimum number of students needed to run the classes. Also, the committee said student recruitment may be difficult because students may not be prepared for an accelerated course format. In the paired format, students will have to devote time to two courses in a subject that is not a strength.

College faculty members may be resistant to developmental education changes (The White Paper Group Committee, 2006). The White Paper Group Committee said

some faculty members believe developmental students need slow-paced instruction to be successful. These faculty members think students need to have course content spread across more than one semester because of the amount of remediation needed. In addition, the committee stated faculty may also be resistant to accelerated formats because of an increase in workload due to new teaching materials and having redesigned courses.

Evaluation Methodology Review

Evaluation approaches are used to judge the merit of a program, and the primary goal of an evaluation is to draw judgments based on the findings (Edmonds & Kennedy, 2013). The primary goal of pairing courses is to measure whether or not course delivery will lead to a higher course completion rate when compared to the tradition 16-week semester. Furthermore, the pairing courses has objectives in accelerating courses and relating developmental course curriculum directly to the college credit course, in this case English Composition I. The process of choosing a research design should take place based on research questions or objectives; then the most appropriate research design should be used to answer the research questions, according to Edmonds and Kennedy.

Three instruments were used in this evaluation to collect data. This evaluation used final grades, writing samples, and anonymous student surveys for data collection. According to Edmonds and Kennedy (2013), quantitative methods usually focus on numerical steps to research effects of certain variables. Measurement is a critical part of the quantitative method, and the measurement will indicate the relationship variables used (Edmonds & Kennedy, 2013). When a quantitative approach is used, Edmonds and Kennedy declared that several steps should be into place. First, a research question must be formulated. The research question should be precise, viable and relevant, according to Edmonds and Kennedy. The next step is to include a research design based on the

research question. In this stage, where and how data will be collected should be considered. The methodology in this study followed these precepts. Archival data was used to evaluate the success of pairing courses as opposed to a traditional model. The research questions are concise, succinct, and relevant. The relevancy of the research questions pertained to furthering research in the success of developmental education students. The instruments used will allow readers to see pass rates of students through a university research report, responses from students from student surveys, and learning gains from writing samples. These three instruments were used to compare the paired model to the traditional model. An experimental research design was used to analyze the results.

Conclusion

Developmental education at the post-secondary levels has been undergoing changes in recent years due to low success rates. One of the most significant changes has been in course delivery. In the area of course delivery, there has been a focus on acceleration so that students are able to complete coursework faster and then can quickly move on to college level work. Researchers hope acceleration will lead to a higher retention rate. As noted, developmental education students face multiple challenges when enrolling college. Different, innovative course delivery models are intended to assist challenges. Pairing courses is one course delivery method being used with the anticipation of greater student success. In several instances of this literature review, the student success rate of pairing courses was higher when compared to taking courses in a traditional 16-week semester. More research needs to be conducted to demonstrate further effectiveness of pairing when being compared to the traditional 16-week semester.

Research Questions

The purpose of this study was to evaluate whether the current model of course pairing at a university in the southeastern United States led to increased student achievement and contribute to higher rates of student retention at a local private university when compared to a traditional 16-week course model? The following questions guided the evaluation:

1. What contributed to student success within a current model of course pairing when compared to the traditional 16-week semester at a local private university?
2. What contributed to learning gains of students in a paired course model at a local private university?
3. How did the achievement rates of the paired course model compare with the achievement rates of the traditional model?

Chapter 3: Methodology

Evaluation methodology was used to determine whether or not pairing developmental English courses was more effective than using a traditional 16-week course delivery method. The results were analyzed with an experimental research design. Edmonds and Kennedy (2012) stated experimental research applies three conditions. The three conditions are (a) covariation, (b) temporal precedence, (c) no plausible alternative explanation. Random assignment was also used with an experimental research design. Using experimental research allowed a reduced threat of internal validity, according to Edmonds and Kennedy. With this methodology, a comparison was made between the two course delivery models. The problem in this evaluative study is the substandard 60% completion rates of developmental education students at a college in the southeastern United States, leading to a low retention rate. Another issue was examining whether or not pairing courses is effective in increasing the passing rates of the developmental education students. This study presented insight regarding whether or not this course delivery option was effective for course acceleration to English Composition II. Data was collected from writing samples, a university research report of course completion, and student survey results. An analytical statistical analysis included mean scores of reported data.

Evaluation Methodology

This research study engaged an evaluative methodology to judge the merit of pairing courses. Evaluation methodology used a quantitative approach that measured course completion, student satisfaction, and learning gains of pairing courses when compared to the traditional 16-semester model. Several instruments were used in order to make a determination about pairing courses. Instruments used were the following: final

grades, writing samples, a university research report of current student surveys and their completion rates. When using this data, comparisons were made between the paired cohort and the traditional cohort. Instructional practices were also analyzed between these two cohorts. Instructional practices will be analyzed by surveying students. Curriculum, while similar, was discussed to determine if any curriculum changes resulted in better performance among students. Learning gains were addressed by writing samples. Students were surveyed to determine how they perceive the paired model, and what contributed to their success or failure. Pedagogical changes from instructors were also discussed. In addition, retention of students was measured by tracking students into the next semester. A comparison was then made between the paired cohort of students and the traditional cohort of students. Research question one, what contributes to student success when comparing the paired model to the traditional model, was answered by surveying the students, discussing curricula, and analyzing instructor pedagogy in the paired model and traditional model classes. Research question two, what contributes to learning gains of the paired course model, was answered by analyzing writing samples (see Appendix), and also analyzing the curricula and instructor pedagogy in the paired model and traditional model classes. Research question three, how did achievement rates compare between the two groups, was answered by analyzing the pass rates of students in the paired model and traditional model classes. After the research questions were answered, a discussion follows regarding what impacted student success.

Research Location

The research site, located in the southeastern United States, had over 3,500 enrolled students across three campuses. The main campus, where the study took place, featured traditional undergraduate programs, graduate degrees, and an evening program

for working adults. The other two campuses offered evening programs for working adults and graduate programs in areas such as counseling and organizational management. The site had an undergraduate student-faculty ratio of 13 to 1. The average undergraduate class size was 19. There are over 150 faculty members and more than 80% hold the highest degree in their field. The research site offered associates, bachelors, masters, and doctorate degrees. Degrees offered majors in arts and sciences, business, education, behavioral science, pre-law, leadership, ministry, and health professions.

Participants

The participants were students taking developmental English and English Composition I in during the 2013-2014 and 2014-2015 academic years; student performance during these school years were analyzed. The control group was called the traditional group that took the sequence in the traditional 16-week semester. The traditional group was selected randomly from students who took developmental English in the fall of 2013 and the fall of 2014. The experimental group was called the paired group. The composition sequence was completed or attempted by 105 students during the 2013-2014 and 2014-2015 academic years in this study. At the research location, four instructors were included in the study. The instructor teaching developmental courses was a participant in the study. This instructor has a master's degree in English Education. Three instructors teaching English Composition I were also participants in the study. Two instructors have doctoral degrees in English, and one instructor has a master's degree in English. Only one instructor also taught developmental English; the other two instructors consistently teach English Composition I populated by students who took Developmental English. Three instructors were male while one was female. Students who took the courses in the traditional model may have had a different instructor than the

developmental English instructor since students in the traditional model were selected from any of the English Composition courses being offered. The students in this study were conditionally accepted into a program of studies. The students were required to take developmental English because standardized writing test scores did not meet minimum college ready requirements. The two cohort groups, paired and traditional, were similar in that all students were required to take developmental English. The paired group of students was voluntarily admitted to taking paired courses. The traditional group took the courses one semester at a time. None of the students in either group were deemed college-ready based on standardized writing scores. The participants in this study were students enrolled in paired sections during the fall semesters of 2013 and 2014, known as the paired group in this study. The traditional group included students enrolled in Developmental English in the fall of 2013 and 2014. The traditional group had to enroll in English Composition I after completing Developmental English in the fall. The paired group and traditional group were compared in the data analysis.

Students were selected by purposive sampling. In purposive sampling, Kennedy and Edmonds (2013) stated a researcher selects participants based on a specific need. The need is for students to complete Developmental English and English Composition I at a higher rate. In addition, purposive sampling is being used to have an accurate sample size. An evaluation of the two delivery models, pairing and traditional, was assessed based on analyzing results of collected data.

The sample target population for this study was students who needed to take the developmental English and English Composition I sequence. The traditional group students took Developmental English in one semester and then had to take English Composition I in a subsequent semester. The paired group was selected by choosing

students taking the composition sequence in the paired format during the fall 2013 and fall 2014. A comparison was made among the traditional group and paired group to demonstrate whether or not the paired format leads to more learning gains and more students completing the English composition sequence of Developmental English and English Composition I.

Instruments

A university research report was the first data collection tool used in this study. The report included pass and fail rates of students. The research report demonstrated performance of students in Developmental English and English Composition I for the traditional and paired groups. The report showed the number of students in each section, and how many students passed or failed Developmental English and English Composition I. Writing samples were scored using rubrics common to all course instructors. The university research report answered the central research question if pairing would lead to increased students achievement. An anonymous survey was administered to answer research question 1, contributions to student success when using the paired model. The survey answered research question 2, what contributes to learning gains. The survey is reliable and valid because it is intended to measure student and teacher perceptions. The survey has been used each semester for as long as the researcher has been employed at the research location.

Writing samples were also used to measure learning gains in writing performance. Writing samples from the beginning of Developmental English were used, as were writing samples from the end of English Composition I. Instructors were asked to voluntarily score writing samples of students taking Developmental English in the previous semester. Learning gains were defined as students showing grade improvement

on the writing samples. The writing samples focused on writing ability and were in essay format. The rubric addressed content, organization, word choice, voice, grammar, sentence structure, and mechanics. The rubric used was from the International Reading Association and National Council of Teachers of English. This rubric is used by English teachers nationally. The rubric's reliability and validity was determined by having all instructors in the study use the rubric, and by having writing samples assessed by two different instructors to ensure no significant variances. Writing samples included various topics as instructors developed their own curricula and answered research Question 3, a comparison of achievement paired course model and the traditional course model. Successful completion of the paired course delivery format was to complete English Composition I. Successful completion of the traditional method, one semester at a time, was to pass developmental English, register for English Composition I, and pass the course.

Procedures

The first procedure was to analyze and assess writing samples. The writing sample scores were coded according to semester and year. The results of the samples were stored in Microsoft Excel files. Forty writing samples, 20 from the paired group and 20 from the traditional group, were analyzed for learning gains and were scored by two instructors to ensure reliability and validity. The data was a mean score on each writing sample. An evaluation was made based on comparing the learning gains of the paired group with the traditional group. The evaluation discussed which group showed the highest learning gains. A between subjects approach was used as the statistical design since there are two groups in addition to a formative and summative approach. Edmonds and Kennedy (2013) stated this approach is when the researcher compares the effects of

two or more groups with single or multiple dependent variables. The statistical analysis included a comparison of the mean scores of all reported writing samples.

The second step was to access survey results. Both paired groups were surveyed as were two sections of the traditional group. The survey was anonymous and the instructor was not present when the survey was being completed. The survey was a university-wide survey from a student-research company. The survey was used by all instructors at the end of every semester for several years at the research location. Students were given the survey towards the end of the courses. The survey addressed various aspects of student and teacher perceptions. Students were asked questions about academic factors and learning gains. The results were compiled to measure the overall perception of pairing courses, including whether or not students felt positively about paired courses. In the statistical analysis, mean survey indicators were analyzed and discussed.

The third step was to analyze data to measure participants' overall academic performance in the courses by analyzing final grades which indicated successful course completion. Students who took the paired courses with the researcher and students who took English Composition I with other instructors were compared for course completion. The comparisons addressed whether there were higher completion rates among students in paired sections or traditional sections. The completion rates came from the research location's research office. This data was coded by semester and year. The data included statistics among students in both formats, traditional and paired. In the traditional semester group, participants who were successful in developmental English were tracked in Composition I. Therefore, students who successfully completed developmental English in the first semester also had to successfully complete Composition I in the subsequent semester in order to have successfully completed the sequence. The paired group was

tracked within the same semester. Participants in both groups were deemed successful by completing both Developmental English and English Composition I with a C or higher.

The last step in this study is to discuss an overall evaluation of course pairing as opposed to the traditional course delivery. The effectiveness of course pairing as a course delivery model was assessed. All instruments were discussed and evaluated to determine if course pairing led to higher learning gains and better pass rates. In addition, pedagogy and curriculum were compared between the paired model and the traditional model.

Data Analyses

Data analysis was conducted by using the chi-square test. Data used were archival. Chi-square testing was used to analyze the variables under consideration. Hypothesis testing was used to test predictions from the research questions asked. Chi-square testing was deemed to be most appropriate because of the sampling method, the variables were categorized, and a hypothesis was tested. The quantitative data was accessed and analyzed to answer the research questions of this study. Archival data was used for the Fall 2013 courses while comparison data was collected from Fall 2014 and Spring 2015. Statistical significance was determined and reported by measuring commonalities and differences among data items according to mean scores. Statistical data was also used to analyze the relationship between data items. Data items were needed to draw conclusions about the participants.

Question 1. What contributes to student success within a current model of course pairing when compared to the traditional 16-week semester at a local private university? The null hypothesis was paired students will have a higher level of satisfaction when compared to satisfaction of traditional students. The chi-square was used to test the null hypothesis at .05 level of significance.

Question 2. What contributes to learning gains of students in a paired course model at a local private university? The null hypothesis was learning gains will increase at a higher rate for students in the paired courses. The chi-square tested the null hypothesis at .05 level of significance.

Question 3. How did the achievement rates of the paired course model compare with the achievement rates of the traditional model? The null hypothesis was paired students will have a higher achievement rates than traditional students. The null hypothesis was tested by the chi-square test at .05 level of significance.

Limitations

The relatively small sample size presented a limitation to this study, representing a threat to external validity according to Kennedy and Edmonds (2013). Sixteen students were included in the paired group while 89 students were in the traditional group. Some students who were eligible for the paired format chose not to take the courses due to scheduling concerns. The amount of surveys collected also represented a limitation. Twelve paired students from two sections had surveys recorded as opposed to 24 surveys from two sections of the traditional group. A larger sample size could have presented more implications.

Another limitation to this study was that some events that occurred in the lives of participants were not taken into account, representing a threat to internal validity according to Edmonds and Kennedy (2013). For example, a participant may have withdrawn from school due to a personal reason such as a family illness. This does not necessarily mean that the course delivery method or difficulty of the courses was the reason for withdrawing. This study has limitations because it does not take into account the illness of a participant negatively affecting the course grade either. The procedures of

this study dictated which participants completed the composition sequence.

Additionally, the time frame differences between the paired and traditional groups represented a limitation as well. The traditional group was studied over the course of an entire school year, while the paired group was studied over one semester. The traditional group had a greater chance of life events occurring since there was twice the amount of time that they were studied. Furthermore, the paired group included two cohorts, meaning that there were essentially two classes of the students. This gave the students the chance to form more camaraderie than the traditional group. The traditional group was spread out among several different classes.

Moreover, another possible limitation was that students in the traditional group also received more advisement and remediation when compared to the paired group. Students in the traditional group were part of a summer program that oriented them to college including early instruction in their developmental English course. This summer program occurred before the start of fall classes. Students in the traditional group were advised and tracked several times during the school year by their advisor and instructor. In addition, the instructor and advisor met several times during the year to discuss student performance of those students in the traditional group. The paired group did not receive this level of intervention. None of the cohorts in the paired group were part of the summer orientation program. While the participants in the paired group had an advisor, the advisor and instructor did not meet on a regular basis to discuss student persistence. The last projected limitation was that all students in the paired group were required to complete an online literacy laboratory. Not all students in the traditional group had to complete the online laboratory since it was implemented in nonpaired courses in Fall 2014. This added more work to their courses, but also may have given them additional

remediation in reading. The paired group had remedial reading instruction for approximately 2 weeks in the fall semester, while the traditional group had reading instruction throughout the semester.

Conclusion

The procedures used intended to garner nonbiased results. While limitations may be present, the study was intended to remain as authentic as possible. The purpose of the procedures for this study centered on the performance of the participants in Developmental English and English Composition I. The methodology used was measured results about which course delivery method may be the more effective. There were few limitations to this study. For example, in classroom instruction, content and methodologies are often adapted for each course to fit the needs of the students. In addition, personal events may have taken place that affect student performance. The methodology of this evaluative study determined if the paired model should be used in the future at the research location, and if the model should be used to sustain student success based on tracking retention beyond the paired semester. Student responses in the surveys helped measure student perceptions with both paired and traditional groups. Surveys also helped determine if any pedagogical changes should take place.

Chapter 4: Results

The researcher proposed to evaluate the effectiveness of pairing Developmental English and English Composition I as compared to the traditional 16-week model. The evaluation measured the effectiveness in terms of student perceptions, learning gains, and academic achievement. Instruments used were student surveys, writing samples, and academic records to evaluate the course delivery model. According to Fulton, Gianneschi, Blanco, and DeMaria (2014), paired model instruction for remedial students is becoming increasingly more successful. Fulton, Gianneschi, Blanco, and DeMaria suggested tracking the progress of remedial students, use policies that encourage student success, and establish performance targets for a successful paired-model program.

The researcher collected archival data from the 2013-2014 and 2014-2015 academic years. Writing samples were used to measure learning gains for both groups in this study, the traditional group and the paired group. The writing samples were scored on a 4-point rubric by four different English composition instructors. Scores were analyzed by comparing a writing sample written at the beginning of the semester in Developmental English as compared to a writing sample written at the end of English Composition I. Student surveys were used to measure student success. The surveys were evaluated on five different components to gauge student perceptions of their composition class. The last archival data was a course completion report from the research location's research office. The reports demonstrated pass and fail rates of students taking Developmental Composition and English Composition I.

Research Question 1

What contributes to student success within a current model of course pairing when compared to the traditional 16-week semester at a local private university?

Research question 1 addressed student perceptions that could result in higher student success. Student surveys were used to measure perceptions of students. The null hypothesis was that student perception levels would be higher in paired courses when compared to traditional model courses. The factors considered corresponding to student success and perception were progressing on objectives, teacher excellence, excellent course, inspiration to achieve goals, and positivity about the course. The surveys were anonymous and distributed under similar conditions. Students completed the surveys in the classroom when the instructor was not present. The survey results were from English Composition I after students from both groups completed the Developmental English-English Composition I sequence. Surveys from both Fall paired groups were used, and two Spring 2015 sections from the traditional group were used. Students rated each question on a scale of 1 to 5, 1 being the lowest rating and 5 being the highest rating. Survey results indicated higher perception levels in several areas.

Overall, the paired groups demonstrated some higher perception levels based on the survey instrument. The Fall 2014 paired group especially demonstrated higher perceptions in several areas when compared to all other groups. The Fall 2014 group rated progress and teacher excellence in the course at 5.0 which is half a point higher than any other group. Both paired groups rated the course at 4.5, which is higher than the 4.0 and 3.6 that the two traditional groups rated the course. The paired groups also rated inspiration to achieve goals at 4.6 and 4.4, higher than the 3.5 the traditional Spring 2014 group recorded. However, responses to the question regarding positivity about the course remained low (3.6 and 3.4) for the paired groups, but high (4.2) for the traditional Spring 2015 group. A 5x5 chi square analysis was computed to test the null hypothesis based on students choosing a 4 or above. However, the chi square test indicated the survey was not

statistically significant. The p value was 0.95921 and the chi-square statistic was 0.634.

Research Question 2

What contributes to learning gains of students in a paired course model at a local private university? The null hypothesis was that learning gains will increase at a higher rate for students in the paired courses based on writing samples scored by composition instructors. The chi square tested the null hypothesis at .05 level of significance, and this hypothesis was rejected at .05 level of significance. The chi square statistic was .2667 and the p value was .605577. The writing samples featured the same topics for both groups. Testing conditions for all groups were similar. Students typed essays in a computer laboratory and sent the essays via an online learning management system. Writing samples were scored by instructors who regularly taught composition courses and were provided with the four point rubric.

Writing sample data did not indicate that significant learning gains were made among the paired group. Forty writing samples were scored by four different instructors on a 4-point rubric, and the students responded to the same topic within the same amount of time. While a 2 is considered proficient, mean scores did not reach a level of 3 or above. Both paired groups maintained proficiency on writing samples, but learning gains decreased from Developmental English to English Composition I. The paired Fall 2014 group had a significant decrease from 2.6 to 2.2. The paired Fall 2013 also had a decrease from 2.2 to 2.0. The two traditional groups did not show any increases in learning gains. Both scores remained stagnant. Furthermore, the Fall 2014 traditional group did not earn the proficiency mean score of 2 at the end of English Composition I, according to writing sample data.

Research Question 3

How did the achievement rates of the paired course model compare with the achievement rates of the traditional model? To answer research question 3, pass or fail rates were analyzed. Pass-fail rates data was provided by the research location's institutional research office. In order for a student to pass a course, a grade of C had to be earned. The results of the pass-fail rates indicated that students in the paired groups completed the Developmental English-English Composition I sequence at a higher rate that is statistically significant. In the 2013-2014 academic year, 88.8 % of students in the paired model completed the composition sequence compared to 75.5% in the traditional model. During the 2014-2015 academic year, 85.7% of students in paired courses completed the composition sequence while 70% completed the courses in the traditional model. Pass rates of students in both paired groups maintained a pass rate of above 85% while the traditional model students passed at a rate below 76%. Traditional model students were students that started Developmental Composition in the fall and needed to take English Composition I in the spring. Paired model students took both courses in the fall semester. The chi square test found the pass rate was statistically significant. The chi square statistic was 3.9764. The *p* value was .046142.

Chapter 5: Discussion

The purpose of this study was to evaluate for effectiveness an undergraduate paired course model in terms of student satisfaction, leaning gains, and student retention when compared to the traditional course model. Student surveys, writing samples, and pass rates were used to measure the effectiveness of pairing courses. This study revealed pairing courses significantly impacted pass rates of students and higher levels of student satisfaction when compared to the traditional model. When students were enrolled in the paired course delivery model, they were more likely to have a higher perception level and were more likely to pass the courses. However, learning gains from writing samples did not increase as a result of the paired model. The results of this study indicated that students pairing Developmental English and English Composition I may lead to more student success in course completion and some higher perception levels. The paired students had a more than 10% higher rate of course completion than the traditional students. Student perception was also higher in progress on objectives, excellent teacher, and inspiring students, despite not being statistically significant. However, the paired model did not demonstrate higher learning gains on writing samples. In the Spring 2014 semester, the traditional group earned higher mean scores than the paired group, and in the Fall 2013 and Fall 2014 semesters, the paired group's mean scores decreased from Developmental English to English Composition I. This chapter will discuss implications of the findings, limitations and recommendations for future research.

Research Question 1

Research question 1 focused on what contributed to student success when using the paired model. Student perceptions of the paired model were measured by using student surveys. Surveying students allowed the researcher to measure how students felt

in terms of whether or not they felt objectives were being met, perceptions of the courses and instructors, and whether or not they felt goals were being achieved. The paired model showed higher perceptions in the areas of progressing on objectives and rating of excellent teacher.

The Fall 2014 paired group had the some of the highest student perceptions. Among the two highest perceptions were progress on objectives (5.0) and rating instructors excellent (5.0). These high student perceptions may have been due to refining the curriculum more in the second year of the program. In the Fall 2014 program, students had a more defined curriculum than in Fall 2013. In Fall 2013, students in Composition I only used a handbook and the instructor utilized class handouts when demonstrating different patterns of rhetoric. Students in Fall 2013 also used a grammar workbook in Developmental English. The amount of reading was less demanding in Fall 2013. In Fall 2014, paired students were required to have the handbook and a composition textbook in Composition I. Students read numerous models of essays by using the composition textbook. Students in Fall 2014 continued to use a grammar workbook in Developmental English. Due to this curriculum change, students received more models of writing which may have contributed to perception of more progress on objectives. The rating of excellent teacher (5.0) may have been due to the instructor being more comfortable with teaching paired courses. In the Fall 2013 semester, the instructor was teaching in the paired format for the first time. The Fall 2013 semester allowed the instructor to determine what was most effective, and least effective. The Fall 2014 semester may have included higher student perceptions because the instructor knew which pedagogical strategies were effective based on the Fall 2013 semester.

Student perceptions of an excellent course were also higher for paired students

(4.5, both paired groups) than traditional students (4.0, 3.6). This higher student perception may be due to the connections made in the two paired courses. For example, if students were to write an argumentative essay in Composition I, the structure of an argument was taught in both courses. In Developmental English, students would write an argument paragraph prior to writing an argument essay in Composition I. The Developmental English course allowed students to practice some of the Composition I content in smaller steps prior to completing the more complex assignment in the Composition I course. Therefore, students may have felt that making the connection resulted in better courses since they were able to have more practice.

Paired courses did not have higher student perceptions in all areas, however. In the perception of positivity about the course, paired students did not rate perceptions at 4 or above. The paired courses rated positivity of the course at 3.6 and 3.4. The traditional students rated positive feelings at 3.3 in Spring 2014 and 4.2 in Spring 2015. Since English composition courses are general education classes that must be taken by freshman students, students often see composition as only a requirement that must be met rather than a desire to take the course. Some students would rather take a course included in their major. This low perception could be attributed by paired students since they were taking the courses at the same time.

When the traditional 2014 group was surveyed in Spring 2015, students recorded some high perceptions. Some of the higher student perceptions included (a) progressing on objectives (4.2), (b) inspiration to achieve goals, (4.6), and (c) positivity about the course.

Research Question 2

Learning gains were the focus of research question 2. Learning gains were

evaluated by using writing samples as the instrument. The first writing sample was taken from the early part of Developmental English. The second writing sample was taken from the end of English Composition I. Four different instructors scored writing samples. This method applied to both groups in the study, giving formative and summative results. The writing samples featured writing expository writing topics, and students completed wrote the writing samples in similar conditions.

Based on writing samples, students did not show significant learning gains. In both groups, leaning gains remained stagnant or decreased. In both academic years, the traditional group averages did not change (2.6, 1.8). Several reasons may have contributed to this performance. First, writing topics were more complex in English Composition I. The level of difficulty may have presented challenges to both groups since students in this study did not have a strong background in writing. While topics were both expository, students were able to use their frame of reference to respond to the topic in Developmental English. The English Composition I topic required students to use some research to support their statements.

Second, students in the paired classes were taking two writing courses at the same time. Students were writing essays in both classes throughout one semester, so it is possible that students may have become weary of writing essays by the end of the semester. The amount of work the paired-class students had to complete within one semester was much higher than students in the traditional group. Students in the traditional group had the same amount of work, but completed the work within two semesters rather than one semester. Despite more complex topics in English Composition I, the traditional group's mean average on writing samples did not change. The traditional 2013-2014 group's average was 2.6 in both semesters, while the traditional 2014-2015

group's average was 1.8.

Third, four different instructors scored the writing samples. While a rubric was provided, there still can be a degree of subjectivity to assessing writing. For example, some instructors may have been more stringent about grammar errors than others, causing lower scores. Moreover, some instructors may have wanted more content and elaboration while allowing some grammar errors.

Research Question 3

Pass-fail rates were the focus of research question 3. Pass-fail rates indicated that paired students passed more than 10 % higher than traditional students. Paired students in 2013 passed both courses at 88.8% while 75.5% of traditional students passed both courses. In Fall 2014, 85.7% of paired students passed both courses, while 70% of traditional students passed both courses. This higher pass rate for paired students may be attributed to the time spent in both classes, and the support received by taking two English classes simultaneously. The lower pass rate for traditional students may be attributed to taking the courses in a longer time span and having to complete the developmental course prior to completing English Composition I.

Paired students may have had a higher pass rate because students received additional writing instructional within the same semester. More support was given to students in the paired model since some assignments were linked. For example, students wrote rough drafts of papers in English Composition I and then refined the paper in Developmental English. Thus, students were able to write papers that were edited and revised several times prior to submitting them. Additional papers written in Developmental English gave paired students further practice in writing. Furthermore, grammar skills taught in Developmental English were immediately transferrable to

English Composition I. For instance, if students were refining papers for vague pronoun reference in English Composition I, in Developmental English pronoun usage was remediated further. Paired classes were also smaller, an average of 8 students per class, than the traditional classes, an average of 11 students per class, which gave students more individualized instruction.

Traditional students may not have performed as well because classes were taken during separate semesters. One conflict with the traditional model was that some students did not pass Developmental English. This resulted in students not registering for English Composition I. This was a particular problem in the Fall 2014 traditional group, since 10 students failed Developmental English. Students in the traditional group were unable to receive as much attention on writing skills as the paired group did since instruction did not link course assignments or skills in another class. Students were expected to know the skills from Developmental English and apply the skills to English Composition I. Further, students in the traditional group were in larger classes than the paired group, so students did not receive as much individualized attention.

Implications of Findings

Boylan and Trawick (2013) expressed concern about reports stating that developmental education is not working. Boylan and Trawick commented that while the news media may portray developmental education as being ineffective, some of these reports are overstated. Citing a study of 107 community colleges, Boylan and Trawick stated that developmental education students can have similar persistence rates as students who do not have to enroll in developmental education courses and acknowledged that many outcomes of developmental education are unsatisfactory, but reports need to be mindful of the objectives of developmental education. Different

models of developmental education have been successful (Boylan & Trawick, 2013).

This study can add to developmental education research since the paired model used in this study indicated higher student pass rates.

This study demonstrated pairing courses can lead to higher student retention and success rates for developmental education students. The pass rate was significantly higher for students enrolled in paired courses. Developmental English students received instruction in fundamental grammar, the writing process, paragraph development, essay structure, and essay development. Instructors used texts that focused on these skills. English Composition I students received instruction in patterns of rhetoric, essay development, documenting sources, grammar reviews, and critical thinking. All instructors used the same writing handbook that focused on these skills. Instructional methodologies of paired and traditional groups were peer review, discussions, lectures, and direct instruction. The pass rate for paired students contributed to more student success since students were able to satisfy two requirements within the same semester. This higher pass rate may be due to taking the courses in the same semester since some traditional students did not pass the developmental course in the first semester, and had to repeat the course in the spring. Some students in the traditional group were unable to pass Developmental English and therefore could not register for English Composition I. It is also possible that the paired students had a higher pass rate since more opportunities for remediation were available since paired students received instruction in writing skills 6 hours a week, while traditional students only received writing instruction 3 hours a week. According to Jaggars, Hodara, Cho, and Xu (2015), the Community College of Baltimore also used a pairing format in which students took a developmental English course with college-level English composition. The students attended courses 6 hours a week. This

allowed students to develop relationships with instructors, and instruction more closely corresponded to the needs of students. The paired format has become popular at Community College of Baltimore, serving more than 500 students.

Another important finding was higher student perceptions in several areas among paired students. Student surveys in college are often subjective to student points of view, but surveys can indicate the overall feelings of students. It is possible that perception rates were higher in some areas such as progress on objectives (5.0, Fall 2014) because of the length of time students spent on the two writing courses. Students were able to measure their progression throughout the two courses by comparing writing assignments and submitting final drafts of essays. Students were also able to become more familiar with their instructor since twice the amount of time was spent in the classroom when compared to traditional students, which may have resulted in the high perception for excellent teacher rating (4.5, 5.0). Positive feelings about the course featured the lowest ratings (3.6, 3.4) possibly due to the requirement to take composition courses, which is a general education requirement. In their study of college student survey evaluations, Emmelman and DeCesare (2007) stated that students usually feel more favorable to instructors who are more responsive to their needs. Instructors who are less responsive usually have less favorable ratings. In Harmes and Miller's (2007) study, students expressed dissatisfaction with general education requirements. Students stated that many are not motivated by general education courses because they think general education courses delay them from taking courses in their major. Students also expressed that some of the curriculum is similar to high school courses.

The last significant finding in this study was that pairing courses did not demonstrate statistically significant learning gains. Writing samples determined whether

or not learning gains occurred. A writing sample from the beginning of the developmental course was used as formative data and a writing sample from the end of English Composition I was used as summative data. In both academic years, learning gains decreased for paired students (2.2 to 2.0 and 2.6 to 2.2). For traditional students, learning gains were stagnant (2.6 and 1.8). The decrease for paired students could be due to the number of writing assignments completed during one term. Since paired students completed writing assignments in both classes in the same semester, it is possible that they may have been overwhelmed by the number of writing assignments by the end of the term, resulting in a less proficient writing piece in English Composition I.

Traditional students did not show any increases in learning gains, but the scores stayed the same. An important consideration for both groups is that the writing assignments in English Composition I are more challenging than the assignments in English Composition I. The level of difficulty may have impacted the learning gains of students in both groups. Alvarez (2008) commented that developmental education students may earn lower English Composition I grades because writing assignments are more sophisticated and more research skills are needed as compared to a developmental course.

Limitations

The goal of this study was to evaluate whether or not pairing courses can lead to higher completion rates, learning gains, and student satisfaction. The sample size is one of the limitations. This study was limited to 89 students who needed to complete Developmental English and English Composition at a private university. This may be considered a small sample size when compared to students who have to take developmental education courses at a larger public institution such as a state or

community college. Students not completing courses because of life factors such as illnesses, or family reasons present limitations. Students with life factors may not have completed a course due to circumstances beyond their control.

Another limitation of this study is that students are admitted provisionally at the research location due to standardized test scores. Some students who apply to the research location may not be accepted if scores do not meet a certain threshold. This is a limitation because the research location is not an open access school like a community or state college. Also, participants in this study were traditional undergraduates who graduated high school recently before attending college. This is a limitation because many developmental students attending a community or state college may be working adults who are returning to college after not attending school for several years.

Time frame differences between the paired and traditional groups represented a limitation. The traditional group studied two courses separately over the course of a school year while the paired group studies two courses within the same semester. This meant that the traditional group had a greater chance of life events occurring since they took the courses in twice the amount of time than the paired group.

In addition, the students in the traditional group received more interventions than the paired group. The traditional group was part of a summer program that oriented them to college classes. Early instruction in developmental English was given during this time. Traditional group students were also tracked and advised numerous times during the school year by their advisor and instructor. The paired group students did not receive this level of intervention. Students in the paired group were not part of the summer program and were only advised at the beginning and end of the semester. The last limitation in this study was completion of an online literacy laboratory. All students in the paired group

were required to complete the literacy laboratory. Not all students in the traditional group had to complete the laboratory since it was implemented in Fall 2014 for traditional students.

Recommendations

Based on the results of this study, pairing courses should continue to be encouraged. Pairing courses demonstrated higher course completion and student perceptions. Pairing courses allowed participants to receive instruction in college level writing skills, while still remediating deficient skills. Expanding course pairing may also lead to less attrition since the time students spend in remediation may be reduced. The time spent in developmental classes is accelerated since courses are satisfied in half of the time. Students also may have a better perception of courses due to pairing courses.

Student perceptions of paired model and traditional model courses were a significant part of this study. The findings indicated that perception rates were not statistically significant even though some perception areas were higher in the paired courses than the traditional courses. A recommendation regarding student perceptions is to assess the perceptions of students at the beginning of the courses. Perceptions may change as more positively or more negatively when the courses progress throughout the semester. In addition, conducting student interviews is another recommendation regarding student perception. In the surveys used in this study, students ranked course and instructor factors based on a written statement from a research company. Perhaps interviewing students in an open-ended question format would better explain student perceptions. Students could explain perception further. Students could also include their own comments about instructors and courses.

Another recommendation is to evaluate learning gains improvement. Since

learning gains did not improve or remained stagnant, this is an area that should be explored. Student performance should possibly be tracked more in the semester. This study only analyzed learning gains at the beginning of the developmental course and at the end of the college credit course. A recommendation is to track learning gains several times during the semester. Comparisons of student performance should be tracked at the beginning, middle, and end of semesters to more closely assess learning gains. In the traditional model, learning gains could be tracked at the beginning, middle, and end of the developmental course. Tracking could also continue in English Composition I at the beginning, middle, and end of the course. The paired model students could also be tracked during the next composition course, English Composition II.

In addition, the curriculum used should be evaluated to ensure that student learning needs are being met. Instructors should evaluate which aspects of writing need more emphasis. Aspects of writing with which students have difficulty should be identified and remediated. Remediating identified weak skills may more positively influence learning gains in the future. For example, when papers are scored, instructors could give individual writing trait scores for different aspects of writing such as grammar, content, organization, and voice. Individual trait scoring would allow instructors to determine which skills need more focus. Another recommendation is to include more assignments that directly relate to English Composition I objectives. While of much the curriculum was aligned, certain aspects such as college level reading skills in Developmental English could have been encouraged more. Jaggars, Hodara, Cho, and Xu (2015) commented that many developmental English courses may stress grammar skills and sentence construction. However, reading, thinking and writing skills that are necessary in college level English courses are not emphasized enough. Thus, Jaggars,

Hodara, Cho, and Xu stated that if students do not see the relevance of the developmental course, then motivation may be lost.

Based on research from Chabot College, Hern (2012) indicated that developmental curricula should prepare students for the demands of college level English courses. Hern stated that Chabot College's developmental curriculum requires students to read full-length nonfiction books, and students then have to use the readings in essays. This is a suggestion that could be used in developmental English classes. According to Hearn, rather than having students use grammar workbooks and assignments, students are completing assignments that directly relate to college level reading and writing at Chabot.

Further models of accelerating developmental education should be encouraged. According to research by Hern (2012), accelerating developmental education classes have been proven to lead to higher course completion. Hern stated that longer developmental sequences may contribute to lower course completion rates. In the traditional model of enrolling in developmental education classes, students must enroll in the developmental course, pass the developmental course, enroll in the college credit course, and pass the college credit course (Hern, 2012). When students are in the paired model, several steps are eliminated since students are placed in the courses at the same time. Hern argued that in the traditional model, after each step in the process, student attrition may occur. To demonstrate this, Hern discussed how a group of students may continue to decrease because of multiple steps involved in the traditional model. For example, if 80% of students in the traditional model pass a developmental education class, the number is likely to decrease after the subsequent semester (Hern, 2012). In an accelerated learning model, such as pairing courses, the number will remain at 80%. Once steps decrease, the less chance of attrition will occur, according to Hern.

Recommendations for Future Research

Future research in relation to course pairing should focus on learning gains. Learning gains was the one area of the study that rejected the null hypothesis since writing scores decreased for paired students. Research may focus on how learning gains can increase when students take courses in a paired format. Future research may address how different curricula and student support may lead to higher learning gains. Research in this area may also address tracking students more closely in addition to offering supplemental instruction to students who do not demonstrate significant learning gains.

Placement of students in paired courses is also an area that could benefit for future research. Research should be conducted on criteria for placing students in paired, or any accelerated format. In this study, Scholastic Aptitude Test or American College Test scores were used as placement tools. However, at community colleges where enrollment in developmental education is more significant, standardized test scores from high school are not always available. Future research may explore open access enrollment of students in paired courses. This would allow any student who needed developmental courses to enroll. Performance of students who are automatically placed in paired courses could be researched.

Furthermore, after surveying educators in the developmental education field, Saxon, Martirosyan, Wentworth, and Boylan (2015) commented that developmental education needs may change based on new high-school implementations. New high-school reforms may influence the placement of students since new standards have been introduced as a result of implementing Common Core standards. Future research may discuss how Common Core standards are influencing the enrollment of developmental education and the placement of students who were taught under Common Core standards.

Research may also address high-school partnerships with community colleges or colleges with developmental education may influence student performance.

Student motivation is another area of future research. Factors that motivate students could be researched further. One important area of student motivation may be to assess whether or not students who are placed in paired courses are more motivated than students who are placed in traditional courses. Reasons why some students are more motivated than others could also be explored. Student motivation could also be discussed regarding why some students may be reluctant to take paired courses, and why some students may not have positive attitudes regarding developmental education other than courses not offering college credit.

Technology use in developmental education should be researched further. Research should focus on if computer programs can aid instruction and remediation. Writing programs that assess writing can also be researched to measure whether or not students benefit from electronic grading systems. According to Saxon, Martirosyan, Wentworth, and Boylan (2015), computer software and internet connections have increased opportunities for incorporating technology into the classroom. Since digital approaches are being implemented, these approaches need to be assessed (Saxon, Martirosyan, Wentworth, & Boylan, 2015). An important area to explore may be to research online developmental courses, especially with paired or accelerated course delivery models.

Pairing courses is an area that still needs more research since there are different ways that courses can be paired. Research can focus on different pairing models. For example, studies can be conducted on pairing courses in two 8-week semesters rather than taking both courses for the full 16 weeks. Online formats of course pairing can also

be explored. Students could take the college credit course in a face-to-face setting while the developmental course is taught online. Future research may also be conducted on larger student populations. The paired model in this study only featured 16 students. Research could be conducted on larger groups. Moreover, research could be conducted on pairing courses in different types of educational institutions. Students taking developmental courses at (a) private universities; (b) public, 4-year universities; and (c) community colleges could be researched for placement, motivational, and course delivery factors.

Long-term outcomes also need to be researched further. The focus of this study was to determine the success of students taking paired courses as compared to taking courses in the traditional model. Research should be conducted to assess the long-term performance of students. The students included in this study were freshmen, and composition courses are intended to prepare students for the rigors of writing in college. Future research should assess how well students perform beyond their freshman year. Future research could reveal how well students in the paired sections perform in upper division junior and senior year courses with significant writing objectives.

Conclusion

The goal of developmental education is to support and remediate students who do not yet have college level skills. The results of this study indicate that pairing courses offers a course delivery format that may assist with these goals. Pairing courses allowed students to finish courses in half the time when compared to the traditional model. Students in the paired course model also had some better perceptions of instructors and courses in some areas when compared to the traditional model. While learning gains was a limiting factor in this study, students in the paired courses remained at a proficient

level. Overall, when analyzing pass rates of paired students, pairing courses allowed students greater academic success due to this unique course format.

In summary, the following findings resulted from pairing Developmental Composition with English Composition I:

1. Pairing courses significantly increased the pass rate.
2. Pairing courses did not increase learning gains based on writing samples.
3. Pairing courses had higher student perceptions of instructors and courses in some areas, but the perception rates were not statistically significant.

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Appendix
Writing Sample Topic

Writing Sample Topic

Diagnostic Essay

Developmental English

Directions

Develop a well-written response to the following topic in a multi-paragraph essay.

Topic for Writing

Culture and environment influence people in multiple ways. How do these elements influence a person? Is one a stronger influence over another? Do they both share equal influence? Be sure to address whether they influence a person negatively or positively, and discuss the results of the influences.